STATEMENT OF BASIS
Tennessee Alloys Company LLC
Bridgeport, AL
Jackson County
705-0007

This proposed Title V Major Source Operating Permit renewal is issued under the provisions of ADEM Admin. Code R. 335-3-16. The above named applicant has requested authorization to perform the work or operate the facility shown on the application and drawings, plans and other documents attached hereto or on file with the Air Division of the Alabama Department of Environmental Management, in accordance with the terms and conditions of this permit.

Tennessee Alloys Company LLC (TAC) was issued its existing Major Source Operating Permit (MSOP) on August 21, 2009, with an expiration date of August 12, 2014. Per ADEM Rule 335-3-16-.12(2), an application for permit renewal shall be submitted at least six (6) months, but not more than eighteen (18) months, before the date of expiration of the permit. Based on this rule, the application for renewal was due to the Department no later than February 12, 2014, but no earlier than February 12, 2013. An application for permit renewal was received by the Department on February 10, 2014. Based on this the Department considers this to be a timely application.

Based on the Title V Permit application Tennessee Alloys Company LLC is a major source for Particulate Matter (PM), Sulfur Dioxide (SO_2), Nitrogen Oxide (NO_X), Carbon Monoxide (CO), Hydrogen Chloride (HCl), and Greenhouse Gases (GHGs).

40 MW Electric Submerged Arc Furnace with Baghouse

Raw materials consisting of a mixture of steel swarf, gravel (SiO_2), coal, and wood chips are introduced into the electric arc furnace. Electricity is fed to the furnace to allow smelting of the raw materials into molten ferrosilicon. At prescribed intervals, the furnace is tapped to allow drainage of the molten ferrosilicon into collection ladles. The molten ferrosilicon is chemically adjusted in the ladles and then poured into casting rings and allowed to cool and harden. Once casting is complete, the ferrosilicon is broken into smaller pieces by equipment and transferred to the crushing and sizing area for final preparation for shipment to customers.

Exhaust gases from the furnace and the tapping process are withdrawn though a cooling duct to the furnace baghouse for particulate removal. The dust collected in the furnace baghouse, called silfume, is pneumatically conveyed to three silos. From the silos, silfume is loaded into bags, trucks, or rail cars.

NSPS

The electric arc furnace is subject only to the particulate matter emission rate limitation of 40 CFR Part 60 Subpart Z, “Standards of Performance for Ferroalloy Production Facilities”.

NESHAPs

The electric arc furnace is no longer subject to 40 CFR Part 63 Subpart YYYYYY, “National Emission Standards for Hazardous Air Pollutants for Area Sources: Ferroalloys Production Facilities”, because the

stack test conducted in 2010 on the electric arc furnace showed that the facility is now a major source of HAPs.

Emission Standards

PM:

Particulate matter emissions from the stacks associated with the electric submerged arc furnace and baghouse shall not exceed the greater of 0.99 lb per Megawatt-hr

or

$E = 3.59 (P)^{0.62}$ (P less than 30 tons per hour)

$E = 17.31(P)^{0.16}$ (P greater than 30 tons per hour)

where E = Emissions in pounds per hour

P = Process weight per hour in tons per hour

40 CFR Part 60 Subpart Z, §60.262(a)(1) & ADEM Admin. Code R. 335-3-4-.04(1)

To prevent this unit from being required to collect four or more data values as required by 40 CFR §64.3(b)(4)(ii), particulate matter emissions associated with the electric arc furnace and baghouse shall not exceed the requested limit of 22.7 lbs/hr.

40 CFR §64.3(b)(4)(ii)

Opacity:

Unless otherwise specified in the Unit Specific provisos of this permit, any source of particulate matter emissions shall not discharge more than one 6-minute average opacity greater than 20% in any 60-minute period. At no time shall any source discharge a 6-minute average opacity of particulate matter emissions greater than 40%. Opacity will be determined by 40 CFR Part 60, Appendix A, Method 9, unless otherwise specified in the Unit Specific provisos of this permit.

ADEM Admin. Code R. 335-3-4-.01(1)

Expected Emissions

Particulate Matter (PM):

The expected controlled PM emissions from the baghouse are 4.0 lbs/hr (17.52 TPY). This is based on stack test data and operating 8,760 hours per year.

Sulfur Dioxide (SO_2):

The expected SO_2 emissions are 156.9 lbs/hr (687.22 TPY). This is based on a mass balance and operating 8,760 hours per year.

Nitrogen Oxides (NO_X):

The expected NO_X emissions are 48.8 lbs/hr (213.74 TPY). This is based on stack test data and operating 8,760 hours per year.

Carbon Monoxide (CO):

The expected CO emissions are 54.9 lbs/hr (239.15 TPY). This is based on stack test data and operating 8,760 hours per year.

Volatile Organic Compounds (VOC):
The expected VOC emissions are 3.4 lbs/hr (14.89 TPY). This is based on stack test data and operating 8,760 hours per year.

Hydrogen Chloride (HCl)
The expected HCl emissions are 5.23 lbs/hr (22.91 TPY). This is based on stack test data and operating 8,760 hours per year.

CAM
This unit is subject to the Compliance Assurance Monitoring (CAM) for particulate matter (PM) only; because the unit has pre-controlled potential emissions greater than the major source threshold, is subject to an emission limit for PM, and uses a control device to achieve compliance with the applicable emission limit. The following is also being performed to ensure that the control equipment is operating correctly.

Periodic Monitoring
The Permittee shall perform a weekly inspection of the main baghouse to verify proper operation.

The following activities shall be performed:
(a) Once per week check hopper, fan, and cleaning cycle for proper operation.
(b) Once per week perform a visual check of all hoods and ductwork.
(c) Record any repairs or observed problems.
ADEM Admin. Code R. 335-3-16-.05(c)

The Permittee shall perform an annual inspection of the main baghouse to verify proper operation.

The following activities shall be performed:
(a) Internal inspection of structure, access doors, and bags during major outages which occur at approximately 12 to 18 month intervals.
(b) Annual external inspection of all hoppers.
(c) Record any repairs or observed problems.
ADEM Admin. Code R. 335-3-16-.05(c)

CAM Plan for 40 MW Electric Submerged Arc Furnace with Baghouse

	Indicator 1	Indicator 2	Indicator 3
I. Indicator	Differential Pressure	Visible Emissions	Visible Inspections
Measurement Approach	Measured using an inlet pressure gauge.	Trained and qualified personnel will do a visible inspection.	The facility will visually inspect the hopper, fan, cleaning cycle, hoods, and ductwork once per week. The structure, access doors, bags, and hoppers will have an internal inspection during each major outage, which occurs at approximately 18 month intervals.
II. Indicator Range	While the unit is operating, an excursion is defined as a pressure differential below 1.0 inches of H_2O or greater than 16.0 inches of H_2O. Excursions trigger an inspection, corrective action, and a reporting requirement.	While the unit is operating, an excursion is defined as the presence of abnormal visible emissions (opacity greater than zero). Excursions trigger an inspection, corrective action, and a reporting requirement.	An excursion will defined as a missed weekly inspection or the failure to perform an internal inspection during each major outage, which occurs at approximately 18 month intervals.
III. Performance Criteria			
1. Data Representativeness	The inlet pressure gage has been properly situated to measure inlet air pressure to the device.	Observations will be taken at the exhaust outlet where the filtered air is introduced to the atmosphere.	These periodic inspections will identify system problems, which must be corrected to ensure proper operation.
2. Verification of Operation Status	Monitoring will only occur on those days when the furnace and baghouse are operational.	Monitoring will only occur on those days when the furnace and baghouse are operational.	Not Applicable
3. QA/QC Practices and Criteria	The pressure gauge will be tested and calibrated as required and in accordance with the manufacturer's recommendation.	The observer will receive on-the-job training, which will acclimate the observer to what constitutes normal/abnormal readings.	Not Applicable
4. Monitoring Frequency	At least once per hour on at least 90% of the operating days in a six-month period.	At least once per day on at least 90% of the operating days in a six-month period.	Weekly and at approximately 18 month intervals as noted.
5. Data Collection Procedures	The pressure differential will be recorded with the time, date, and name of the observer.	The visible emission inspection will be recorded with the time, date, and name of the observer.	The observer will document the results of each inspection
6. Averaging Period	Instantaneous	Instantaneous	Not Applicable

Recordkeeping and Reporting

The Permittee shall provide a written report (by letter, fax, or email) to the Department, by the 10th day of each month, showing all periods when the furnace baghouse was not in operating during the preceding month. For each period the baghouse was not in operation, the report will describe or show the following:

(a) The time the furnace was not in operation.
(b) The time the baghouse was not in operation.
(c) The baghouse down time that was in excess of the furnace down time.
(d) The reason(s) the furnace and/or baghouse were not in operation.
(e) The total of the excess baghouse down time as a percentage of the furnace monthly operating time.

Administrative Order No. 88-072-AP

The Permittee shall maintain a record of all inspections performed to satisfy the requirements of periodic monitoring. This shall include problems observed and corrective actions taken. The records shall be retained for at least five (5) years from the date of generation and shall be available upon request.

ADEM Admin. Code R. 335-3-16-.05(c)

The facility shall maintain a record of all differential pressure readings performed to satisfy the requirements of Compliance Assurance Monitoring. This shall include all problems observed, excursions, and corrective actions taken. Each record shall be maintained for a period of 5 years.

40 CFR Part 64

The facility shall maintain a record of all visible emissions observations performed to satisfy the requirements of Compliance Assurance Monitoring. This shall include all problems observed, excursions, and corrective actions taken. Each record shall be maintained for a period of 5 years.

40 CFR Part 64

The Permittee shall record the baghouse inlet temperature hourly. Also, a record shall be kept of instances that the inlet temperature exceeds the action level (450°F) and the corrective action taken. Any deviations from the inlet temperature range (above 500°F) shall be documented along with corrective action and reported to the Department within two (2) working days. Each record shall be maintained for a period of 5 years.

40 CFR Part 64

Dump Hopper

Cooled ferrosilicon product is moved via a front-end loader to the Dump Hopper. A conveyor carries the product from the dump hopper to the grader screen which separates fines and passes larger product to the primary crusher. Emissions from this process are vented to the dump hopper baghouse and then exhausted into the atmosphere.

Emission Standards

PM:

Particulate matter emissions from this unit shall not exceed the lesser of that which is calculated using the process weight equation as defined in ADEM Admin. Code R. 335-3-4-.04(1) ($E = 3.59 (P)^{0.62}$ where

E = Emissions in pounds per hour and P = Process weight per hour in tons per hour)or the requested PM limit of 22.7 lbs/hr.

ADEM Admin. Code R. 335-3-4-.04(1) & 40 CFR §64.3(b)(4)(ii)

Opacity:

Unless otherwise specified in the Unit Specific provisos of this permit, any source of particulate matter emissions shall not discharge more than one 6-minute average opacity greater than 20% in any 60-minute period. At no time shall any source discharge a 6-minute average opacity of particulate matter emissions greater than 40%. Opacity will be determined by 40 CFR Part 60, Appendix A, Method 9, unless otherwise specified in the Unit Specific provisos of this permit.

ADEM Admin. Code R. 335-3-4-.01(1)

Expected Emissions

Particulate Matter (PM):

The expected controlled PM emissions from the baghouse are 4.06 lbs/hr (17.78 TPY). This is based on stack test data and operating 8,760 hours per year.

CAM

This unit is subject to the Compliance Assurance Monitoring (CAM) for particulate matter (PM) only; because the unit has pre-controlled potential emissions greater than the major source threshold, is subject to an emission limit for PM, and uses a control device to achieve compliance with the applicable emission limit. The following is also being performed to ensure that the control equipment is operating correctly.

Periodic Monitoring

The Permittee shall perform a weekly inspection of the baghouse associated with this process to verify proper operation.

The following activities shall be performed:

(a) Once per week check the capture hoods associated with this unit for fugitive emissions.
(b) Record any repairs or observed problems.

ADEM Admin. Code R. 335-3-16-.05(c)

The Permittee shall perform a monthly inspection of the baghouse associated with this process to verify proper operation.

The following activities shall be performed:

(a) Once per month check hopper, fan, and cleaning cycle for proper operation.
(b) Once per month perform a visual check of all hoods and ductwork.
(c) Record any repairs or observed problems.

ADEM Admin. Code R. 335-3-16-.05(c)

The Permittee shall perform an annual inspection of the baghouse associated with this process to verify proper operation.

The following activities shall be performed:

(a) Internal inspection of structure, access doors, and bags.
(b) External inspection of all hoppers.

(c) Record any repairs or observed problems.
ADEM Admin. Code R. 335-3-16-.05(c)

CAM Plan for Dumper Hopper

	Indicator 1	Indicator 2	Indicator 3
I. Indicator	Differential Pressure	Visible Emissions	Visible Inspections
Measurement Approach	Measured using an inlet pressure gauge.	Trained and qualified personnel will do a visible inspection.	The facility will visually inspect the hopper, fan, cleaning cycle, hoods, and ductwork once per week. The structure, access doors, bags, and hoppers will have an internal inspection during each major outage, which occurs at approximately 18 month intervals.
II. Indicator Range	While the unit is operating, an excursion is defined as a pressure differential below 1.0 inches of H_2O or greater than 14.0 inches of H_2O. Excursions trigger an inspection, corrective action, and a reporting requirement.	While the unit is operating, an excursion is defined as the presence of abnormal visible emissions (opacity greater than zero). Excursions trigger an inspection, corrective action, and a reporting requirement.	An excursion will defined as a missed weekly inspection or the failure to perform an internal inspection during each major outage, which occurs at approximately 18 month intervals.
III. Performance Criteria			
1. Data Representativeness	The inlet pressure gage has been properly situated to measure inlet air pressure to the device.	Observations will be taken at the exhaust outlet where the filtered air is introduced to the atmosphere.	These periodic inspections will identify system problems, which must be corrected to ensure proper operation.
2. Verification of Operation Status	Monitoring will only occur on those days when the unit is operational.	Monitoring will only occur on those days when the unit is operational.	Not Applicable
3. QA/QC Practices and Criteria	The pressure gauge will be tested and calibrated as required and in accordance with the manufacturer's recommendation.	The observer will receive on-the-job training, which will acclimate the observer to what constitutes normal/abnormal readings.	Not Applicable
4. Monitoring Frequency	At least once per day on at least 90% of the operating days in a six-month period.	At least once per week on at least 90% of the operating days in a six-month period.	Weekly and at approximately 18 month intervals as noted.
5. Data Collection Procedures	The pressure differential will be recorded with the time, date, and name of the observer.	The visible emission inspection will be recorded with the time, date, and name of the observer.	The observer will document the results of each inspection
6. Averaging Period	Instantaneous	Instantaneous	Not Applicable

Recordkeeping and Reporting

The Permittee shall maintain a record of all inspections performed to satisfy the requirements of periodic monitoring. This shall include problems observed and corrective actions taken. The records shall be retained for at least five (5) years from the date of generation and shall be available upon request.

ADEM Admin. Code R. 335-3-16-.05(c)

The Permittee shall record the baghouse pressure daily. Any deviations from the pressure range shall be documented along with the corrective action and reported to the Department within two (2) working days. Each record shall be maintained for a period of 5 years.

40 CFR Part 64

The facility shall maintain a record of all visible emissions observations performed to satisfy the requirements of Compliance Assurance Monitoring. This shall include all problems observed, excursions, and corrective actions taken. Each record shall be maintained for a period of 5 years.

40 CFR Part 64

Primary Crushing and Screening

Large ferrosilicon product is crushed and screened according the customer requirements at the primary crushing and screening operation. Emissions from this process are vented to the primary crushing and screening baghouse and then exhausted into the atmosphere.

Emission Standards

PM:

Particulate matter emissions from this unit shall not exceed the lesser of that which is calculated using the process weight equation as defined in ADEM Admin. Code R. 335-3-4-.04(1) ($E = 3.59 (P)^{0.62}$ where E = Emissions in pounds per hour and P = Process weight per hour in tons per hour)or the requested PM limit of 22.7 lbs/hr.

ADEM Admin. Code R. 335-3-4-.04(1) & 40 CFR §64.3(b)(4)(ii)

Opacity:

Unless otherwise specified in the Unit Specific provisos of this permit, any source of particulate matter emissions shall not discharge more than one 6-minute average opacity greater than 20% in any 60-minute period. At no time shall any source discharge a 6-minute average opacity of particulate matter emissions greater than 40%. Opacity will be determined by 40 CFR Part 60, Appendix A, Method 9, unless otherwise specified in the Unit Specific provisos of this permit.

ADEM Admin. Code R. 335-3-4-.01(1)

Expected Emissions

Particulate Matter (PM):

The expected controlled PM emissions from the baghouse are 3.67 lbs/hr (16.07 TPY). This is based on stack test data and operating 8,760 hours per year.

CAM

This unit is subject to the Compliance Assurance Monitoring (CAM) for particulate matter (PM) only; because the unit has pre-controlled potential emissions greater than the major source threshold, is

subject to an emission limit for PM, and uses a control device to achieve compliance with the applicable emission limit. The following is also being performed to ensure that the control equipment is operating correctly.

Periodic Monitoring

The Permittee shall perform a weekly inspection of the baghouse associated with this process to verify proper operation.

The following activities shall be performed:

(a) Once per week check the capture hoods associated with this unit for fugitive emissions.
(b) Record any repairs or observed problems.
ADEM Admin. Code R. 335-3-16-.05(c)

The Permittee shall perform a monthly inspection of the baghouse associated with this process to verify proper operation.

The following activities shall be performed:

(a) Once per month check hopper, fan, and cleaning cycle for proper operation.
(b) Once per month perform a visual check of all hoods and ductwork.
(c) Record any repairs or observed problems.
ADEM Admin. Code R. 335-3-16-.05(c)

The Permittee shall perform an annual inspection of the baghouse associated with this process to verify proper operation.

The following activities shall be performed:

(a) Internal inspection of structure, access doors, and bags.
(b) External inspection of all hoppers.
(c) Record any repairs or observed problems.
ADEM Admin. Code R. 335-3-16-.05(c)

CAM Plan for Primary Crushing and Screening

	Indicator 1	Indicator 2	Indicator 3
I. Indicator	Differential Pressure	Visible Emissions	Visible Inspections
Measurement Approach	Measured using an inlet pressure gauge.	Trained and qualified personnel will do a visible inspection.	The facility will visually inspect the hopper, fan, cleaning cycle, hoods, and ductwork once per week. The structure, access doors, bags, and hoppers will have an internal inspection during each major outage, which occurs at approximately 18 month intervals.
II. Indicator Range	While the unit is operating, an excursion is defined as a pressure differential below 1.0 inches of H_2O or greater than 14.0 inches of H_2O. Excursions trigger an inspection, corrective action, and a reporting requirement.	While the unit is operating, an excursion is defined as the presence of abnormal visible emissions (opacity greater than zero). Excursions trigger an inspection, corrective action, and a reporting requirement.	An excursion will defined as a missed weekly inspection or the failure to perform an internal inspection during each major outage, which occurs at approximately 18 month intervals.
III. Performance Criteria			
1. Data Representativeness	The inlet pressure gage has been properly situated to measure inlet air pressure to the device.	Observations will be taken at the exhaust outlet where the filtered air is introduced to the atmosphere.	These periodic inspections will identify system problems, which must be corrected to ensure proper operation.
2. Verification of Operation Status	Monitoring will only occur on those days when the unit is operational.	Monitoring will only occur on those days when the unit is operational.	Not Applicable
3. QA/QC Practices and Criteria	The pressure gauge will be tested and calibrated as required and in accordance with the manufacturer's recommendation.	The observer will receive on-the-job training, which will acclimate the observer to what constitutes normal/abnormal readings.	Not Applicable
4. Monitoring Frequency	At least once per day on at least 90% of the operating days in a six-month period.	At least once per week on at least 90% of the operating days in a six-month period.	Weekly and at approximately 18 month intervals as noted.
5. Data Collection Procedures	The pressure differential will be recorded with the time, date, and name of the observer.	The visible emission inspection will be recorded with the time, date, and name of the observer.	The observer will document the results of each inspection
6. Averaging Period	Instantaneous	Instantaneous	Not Applicable

Recordkeeping and Reporting

The Permittee shall maintain a record of all inspections performed to satisfy the requirements of periodic monitoring. This shall include problems observed and corrective actions taken. The records shall be retained for at least five (5) years from the date of generation and shall be available upon request.

ADEM Admin. Code R. 335-3-16-.05(c)

The Permittee shall record the baghouse pressure daily. Any deviations from the pressure range shall be documented along with the corrective action and reported to the Department within two (2) working days. Each record shall be maintained for a period of 5 years.

40 CFR Part 64

The facility shall maintain a record of all visible emissions observations performed to satisfy the requirements of Compliance Assurance Monitoring. This shall include all problems observed, excursions, and corrective actions taken. Each record shall be maintained for a period of 5 years.

40 CFR Part 64

Secondary Crushing and Screening

The secondary crushing and screening operation is used for additional product sizing with vibrating screens based on customer demands. Conveyors transport the material from the primary screening and crushing. Emissions from this process are vented to the secondary crushing and screening baghouse and then exhausted into the atmosphere.

Emission Standards

PM:

Particulate matter emissions from this unit shall not exceed the lesser of that which is calculated using the process weight equation as defined in ADEM Admin. Code R. 335-3-4-.04(1) ($E = 3.59\ (P)^{0.62}$ where E = Emissions in pounds per hour and P = Process weight per hour in tons per hour)or the requested PM limit of 22.7 lbs/hr.

ADEM Admin. Code R. 335-3-4-.04(1) & 40 CFR §64.3(b)(4)(ii)

Opacity:

Unless otherwise specified in the Unit Specific provisos of this permit, any source of particulate matter emissions shall not discharge more than one 6-minute average opacity greater than 20% in any 60-minute period. At no time shall any source discharge a 6-minute average opacity of particulate matter emissions greater than 40%. Opacity will be determined by 40 CFR Part 60, Appendix A, Method 9, unless otherwise specified in the Unit Specific provisos of this permit.

ADEM Admin. Code R. 335-3-4-.01(1)

Expected Emissions

Particulate Matter (PM):

The expected controlled PM emissions from the baghouse are 2.05 lbs/hr (8.98 TPY). This is based on stack test data and operating 8,760 hours per year.

CAM

This unit is subject to the Compliance Assurance Monitoring (CAM) for particulate matter (PM) only; because the unit has pre-controlled potential emissions greater than the major source threshold, is

subject to an emission limit for PM, and uses a control device to achieve compliance with the applicable emission limit. The following is also being performed to ensure that the control equipment is operating correctly.

Periodic Monitoring

The Permittee shall perform a weekly inspection of the baghouse associated with this process to verify proper operation.

The following activities shall be performed:

(a) Once per week check the capture hoods associated with this unit for fugitive emissions.
(b) Record any repairs or observed problems.
ADEM Admin. Code R. 335-3-16-.05(c)

The Permittee shall perform a monthly inspection of the baghouse associated with this process to verify proper operation.

The following activities shall be performed:

(a) Once per month check hopper, fan, and cleaning cycle for proper operation.
(b) Once per month perform a visual check of all hoods and ductwork.
(c) Record any repairs or observed problems.
ADEM Admin. Code R. 335-3-16-.05(c)

The Permittee shall perform an annual inspection of the baghouse associated with this process to verify proper operation.

The following activities shall be performed:

(a) Annual internal inspection of structure, access doors, and bags.
(b) Annual external inspection of all hoppers.
(c) Record any repairs or observed problems.
ADEM Admin. Code R. 335-3-16-.05(c)

CAM Plan for Secondary Crushing and Screening

	Indicator 1	Indicator 2	Indicator 3
I. Indicator	Differential Pressure	Visible Emissions	Visible Inspections
Measurement Approach	Measured using an inlet pressure gauge.	Trained and qualified personnel will do a visible inspection.	The facility will visually inspect the hopper, fan, cleaning cycle, hoods, and ductwork once per week. The structure, access doors, bags, and hoppers will have an internal inspection during each major outage, which occurs at approximately 18 month intervals.
II. Indicator Range	While the unit is operating, an excursion is defined as a pressure differential below 1.0 inches of H_2O or greater than 14.0 inches of H_2O. Excursions trigger an inspection, corrective action, and a reporting requirement.	While the unit is operating, an excursion is defined as the presence of abnormal visible emissions (opacity greater than zero). Excursions trigger an inspection, corrective action, and a reporting requirement.	An excursion will defined as a missed weekly inspection or the failure to perform an internal inspection during each major outage, which occurs at approximately 18 month intervals.
III. Performance Criteria			
1. Data Representativeness	The inlet pressure gage has been properly situated to measure inlet air pressure to the device.	Observations will be taken at the exhaust outlet where the filtered air is introduced to the atmosphere.	These periodic inspections will identify system problems, which must be corrected to ensure proper operation.
2. Verification of Operation Status	Monitoring will only occur on those days when the unit is operational.	Monitoring will only occur on those days when the unit is operational.	Not Applicable
3. QA/QC Practices and Criteria	The pressure gauge will be tested and calibrated as required and in accordance with the manufacturer's recommendation.	The observer will receive on-the-job training, which will acclimate the observer to what constitutes normal/abnormal readings.	Not Applicable
4. Monitoring Frequency	At least once per day on at least 90% of the operating days in a six-month period.	At least once per week on at least 90% of the operating days in a six-month period.	Weekly and at approximately 18 month intervals as noted.
5. Data Collection Procedures	The pressure differential will be recorded with the time, date, and name of the observer.	The visible emission inspection will be recorded with the time, date, and name of the observer.	The observer will document the results of each inspection
6. Averaging Period	Instantaneous	Instantaneous	Not Applicable

Recordkeeping and Reporting

The Permittee shall maintain a record of all inspections performed to satisfy the requirements of periodic monitoring. This shall include problems observed and corrective actions taken. The records shall be retained for at least five (5) years from the date of generation and shall be available upon request.

ADEM Admin. Code R. 335-3-16-.05(c)

The Permittee shall record the baghouse pressure daily. Any deviations from the pressure range shall be documented along with the corrective action and reported to the Department within two (2) working days. Each record shall be maintained for a period of 5 years.

40 CFR Part 64

The facility shall maintain a record of all visible emissions observations performed to satisfy the requirements of Compliance Assurance Monitoring. This shall include all problems observed, excursions, and corrective actions taken. Each record shall be maintained for a period of 5 years.

40 CFR Part 64

Crushing and Sizing System

The crushing and sizing operation is used for additional product sizing with vibrating screens based on customer demands. Conveyors transport the material from the secondary screening and crushing. Emissions from this process are vented to the crushing and sizing system baghouse and then exhausted into the atmosphere.

Emission Standard

PM:

Particulate matter emissions from this unit shall not exceed 5.7 lbs/hr and 24.9 tons/year.

ADEM Admin. Code R. 335-3-14-.04 (Anti-PSD)

Opacity:

Unless otherwise specified in the Unit Specific provisos of this permit, any source of particulate matter emissions shall not discharge more than one 6-minute average opacity greater than 20% in any 60-minute period. At no time shall any source discharge a 6-minute average opacity of particulate matter emissions greater than 40%. Opacity will be determined by 40 CFR Part 60, Appendix A, Method 9, unless otherwise specified in the Unit Specific provisos of this permit.

ADEM Admin. Code R. 335-3-4-.01(1)

Expected Emissions

Particulate Matter (PM):

The expected controlled PM emissions from the baghouse are 1.06 lbs/hr (4.64 TPY). This is based on stack test data and operating 8,760 hours per year.

CAM

This unit is subject to the Compliance Assurance Monitoring (CAM) for particulate matter (PM) only; because the unit has pre-controlled potential emissions greater than the major source threshold, is subject to an emission limit for PM, and uses a control device to achieve compliance with the applicable

emission limit. The following is also being performed to ensure that the control equipment is operating correctly.

Periodic Monitoring

The Permittee shall perform a weekly inspection of the baghouse associated with this process to verify proper operation.

The following activities shall be performed:

(a) Once per week check the capture hoods associated with this unit for fugitive emissions.
(b) Record any repairs or observed problems.

ADEM Admin. Code R. 335-3-16-.05(c)

The Permittee shall perform a monthly inspection of the baghouse associated with this process to verify proper operation.

The following activities shall be performed:

(a) Once per month check hopper, fan, and cleaning cycle for proper operation.
(b) Once per month perform a visual check of all hoods and ductwork.
(c) Record any repairs or observed problems.

ADEM Admin. Code R. 335-3-16-.05(c)

The Permittee shall perform an annual inspection of the baghouse associated with this process to verify proper operation.

The following activities shall be performed:

(a) Annual internal inspection of structure, access doors, and bags.
(b) Annual external inspection of all hoppers.
(c) Record any repairs or observed problems.

ADEM Admin. Code R. 335-3-16-.05(c)

CAM Plan for Crushing and Sizing System

	Indicator 1	Indicator 2	Indicator 3
I. Indicator	Differential Pressure	Visible Emissions	Visible Inspections
Measurement Approach	Measured using an inlet pressure gauge.	Trained and qualified personnel will do a visible inspection.	The facility will visually inspect the hopper, fan, cleaning cycle, hoods, and ductwork once per week. The structure, access doors, bags, and hoppers will have an internal inspection during each major outage, which occurs at approximately 18 month intervals.
II. Indicator Range	While the unit is operating, an excursion is defined as a pressure differential below 1.0 inches of H_2O or greater than 14.0 inches of H_2O. Excursions trigger an inspection, corrective action, and a reporting requirement.	While the unit is operating, an excursion is defined as the presence of abnormal visible emissions (opacity greater than zero). Excursions trigger an inspection, corrective action, and a reporting requirement.	An excursion will defined as a missed weekly inspection or the failure to perform an internal inspection during each major outage, which occurs at approximately 18 month intervals.
III. Performance Criteria			
1. Data Representativeness	The inlet pressure gage has been properly situated to measure inlet air pressure to the device.	Observations will be taken at the exhaust outlet where the filtered air is introduced to the atmosphere.	These periodic inspections will identify system problems, which must be corrected to ensure proper operation.
2. Verification of Operation Status	Monitoring will only occur on those days when the unit is operational.	Monitoring will only occur on those days when the unit is operational.	Not Applicable
3. QA/QC Practices and Criteria	The pressure gauge will be tested and calibrated as required and in accordance with the manufacturer's recommendation.	The observer will receive on-the-job training, which will acclimate the observer to what constitutes normal/abnormal readings.	Not Applicable
4. Monitoring Frequency	At least once per day on at least 90% of the operating days in a six-month period.	At least once per week on at least 90% of the operating days in a six-month period.	Weekly and at approximately 18 month intervals as noted.
5. Data Collection Procedures	The pressure differential will be recorded with the time, date, and name of the observer.	The visible emission inspection will be recorded with the time, date, and name of the observer.	The observer will document the results of each inspection
6. Averaging Period	Instantaneous	Instantaneous	Not Applicable

Recordkeeping and Reporting

The Permittee shall maintain a record of all inspections performed to satisfy the requirements of periodic monitoring. This shall include problems observed and corrective actions taken. The records shall be retained for at least five (5) years from the date of generation and shall be available upon request.

ADEM Admin. Code R. 335-3-16-.05(c)

The Permittee shall record the baghouse pressure daily. Any deviations from the pressure range shall be documented along with the corrective action and reported to the Department within two (2) working days. Each record shall be maintained for a period of 5 years.

40 CFR Part 64

The facility shall maintain a record of all visible emissions observations performed to satisfy the requirements of Compliance Assurance Monitoring. This shall include all problems observed, excursions, and corrective actions taken. Each record shall be maintained for a period of 5 years.

40 CFR Part 64

Silfume Handling, Transport, and Storage

Silfume (silica fume) collected in the main baghouse, associated with the furnace, hoppers is pneumatically conveyed to three storage silos located near the main baghouse. These silos each have a bin vent filter located on top of the silo to separate the silfume from the conveying air stream. From the silos the silfume is loaded into bags, trucks, or railcars for shipment to customers or, after mixing with water, to an approved landfill.

Emission Standards:

This source is not subject to any emissions standards other than those in the general provisos.

Expected Emissions:

Particulate Matter (PM):

The expected controlled PM emissions from this process are 3.56 lbs/hr (15.59 TPY). This is based on a material balance and operating 8,760 hours per year.

Periodic Monitoring, Recordkeeping, & Reporting:

This source is not subject to any emissions standards other than those in the general provisos. Therefore the source is not subject to any additional monitoring or recordkeeping and reporting requirements other than those listed in the general provisos.

CAM:

This source does not have pre-controlled potential emissions greater than any major source threshold; therefore, CAM does not apply.

587 HP Diesel Fired Emergency Generator

This emergency generator is not subject to 40 CFR Part 60 Subpart IIII (Standards of Performance for Stationary Compression Ignition Internal Combustion Engines) because this generator was manufactured before the applicability date of April 1, 2006. This emergency generator is subject to the

applicable requirements in 40 CFR Part 63 Subpart ZZZZ (National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines (RICE)).

NSPS:

Subpart IIII applies to owners and operators of engines that commence construction after July 11, 2005, where the engines are manufactured on or after April 1, 2006, and are not fire pump engines. This unit was manufactured before April 1, 2006 and is not fire pump engines, so Subpart IIII does not apply.

40 CFR Part 60 Subpart IIII, §60.4200(a)(3)

MACT:

A new emergency generator (commenced construction on or after December 19, 2002) with a site rating of more than 500 brake HP located at a major source of HAP emissions that does not operate or is not contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in §63.6640(f)(2)(ii) and (iii) do not have to meet the requirements of Subpart ZZZZ and of subpart A of Part 63 except for the initial notification requirements of §63.6645(f).

40 CFR Part 63 Subpart ZZZZ, §63.6590(b)(1)(i)

Based on the paragraph above this unit does not have to meet the requirements of Subpart ZZZZ except for the initial notification requirements.

Emission Standards:

This unit shall not be operated for emergency demand response for periods in which the Reliability Coordinator under the North American Electric Reliability Corporation (NERC) Reliability Standard EOP-002-3, Capacity and Energy Emergencies (incorporated by reference, see §63.14), or other authorized entity as determined by the Reliability Coordinator, has declared an Energy Emergency Alert Level 2 as defined in the NERC Reliability Standard EOP-002-3 and for periods where there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency for more than 15 hours per calendar year.

40 CFR Part 63 Subpart ZZZZ, §63.6590(b)(1)(i) & §63.6640(f)(2)(ii)&(iii)

This unit may be operated for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State or local government, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing of this unit is limited to 100 hours per year. There is no time limit on the use of this unit in emergency situations. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency ICE beyond 100 hours per year . This unit may operate up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply non-emergency power as part of a financial arrangement with another entity. Any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as permitted in 40 CFR 63 Subpart ZZZZ, is prohibited.

40 CFR Part 63 Subpart ZZZZ, §63.6640(f)(1)

Expected Emissions:
The expected emissions, based on AP-42 emission factors, manufacturer's certifications, and a maximum operation of 500 hours per year, are shown below:

Pollutant	587 HP Emergency Generator	
	lb/hr	TPY
PM_{10}/ $PM_{2.5}$	0.15	0.007
SO_2	0.14	0.007
NO_X	2.13	0.107
CO	0.46	0.023
VOC	0.17	0.008

Periodic Monitoring, Recordkeeping, & Reporting:
This source is not subject to any emissions standards other than those in the general provisos. Therefore the source is not subject to any additional monitoring or recordkeeping and reporting requirements other than those listed in the general provisos.

CAM:
This source does not have pre-controlled potential emissions greater than any major source threshold; therefore, CAM does not apply.

Recommendation:
Based on the above analysis and pending the resolution of any comments received during the 30-day public comment period and 45 day EPA review, I recommend issuing Tennessee Alloy Company's Title V MSOP renewal.

Ryan Cowart
Industrial Minerals Section
Energy Branch
Air Division

July 18, 2014
Date